

Frame 91E Buckets



Chromalloy offers first stage buckets for the Frame 9E gas turbine.

Our experience in servicing turbine buckets throughout their life cycle has provided a unique insight into designing a high quality product that is 100% compatible and interchangeable with the original equipment.

Casting

These buckets are Equiaxed investment cast utilizing an advanced Nickel-based superalloy developed within Chromalloy's organization. This alloy is similar in mechanical and physical characteristics to the OEM material.

Machining

After initial datum checks the bucket casting has cooling holes radial drilled along the mean line of the bucket using the Shaped Tube Electrolytic Machining (STEM) technique, with nine out of the 11 holes turbulated. Turbulation of cooling holes dramatically increases the heat transfer from bucket base material to the cooling air.

Coating

Chromalloy applies a CoNiCrAlY coating to the airfoil with superior Oxidation and corrosion resistance for the base load and peak applications throughout a wide range of fuel types and operational conditions. Chromalloy can also offer a Thermal Barrier Coating (TBC) option with the MCrAlY to provide further thermal cycling protection.

Cooling holes have an aluminide coating to improve corrosion resistance. Our coating technology has been developed over many years of Gas Turbine servicing experience.

Stage 1 Buckets (S1B)

Firing Temp: 2055 °F

Airfoil: Blunt leading Edge Airfoil.

Cooling: 11 radial STEM drilled cooling holes along mean line of airfoil, 9 holes with turbulation.

Material: Proprietary MS1108, which is a Chromalloy Proprietary Equiaxed Nickel based superalloy very similar in characteristics to OEM's material.

Coating: The buckets are coated to provide protection from oxidation and corrosion.

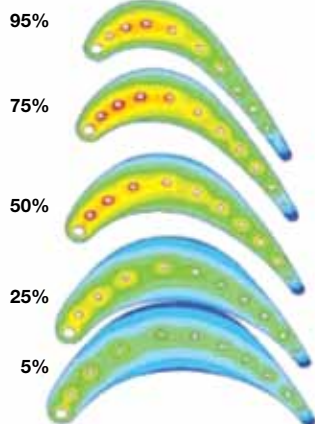
The coating is a LPPS applied MCrAlY overlay coating with aluminide coating on internal cooling holes. Coating specification is equivalent to OEM's GT33 INCOAT coating.

Chromalloy provides power producers around the world with high-tech coatings, repairs and replacement parts that extend the life of gas turbine engines and reduce operating expenses. Through Turbine Services Limited, a wholly owned subsidiary of Chromalloy, we also provide a wide range of services including field services, engineering, maintenance, long term service agreements, controls and monitoring.

Chromalloy extends engine life like no other company can by providing the industry's only complete independent value chain—including design engineering, state-of-the-art castings, machining, coatings, repairs and field services. These unrivaled capabilities represent 60 years of innovation—and they can make an impact today.

Combined Thermal-Mechanical Loading

Von Mises Stress



Services include:

- Plant operation and maintenance
- Plant operator training
- Field and engineering support
- Rotor Overhaul
- Component refurbishment
- Condition Monitoring
- Replacement spare parts
- Long Term Service Agreements
- Turbine control systems
- Turbine Refurbishment

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